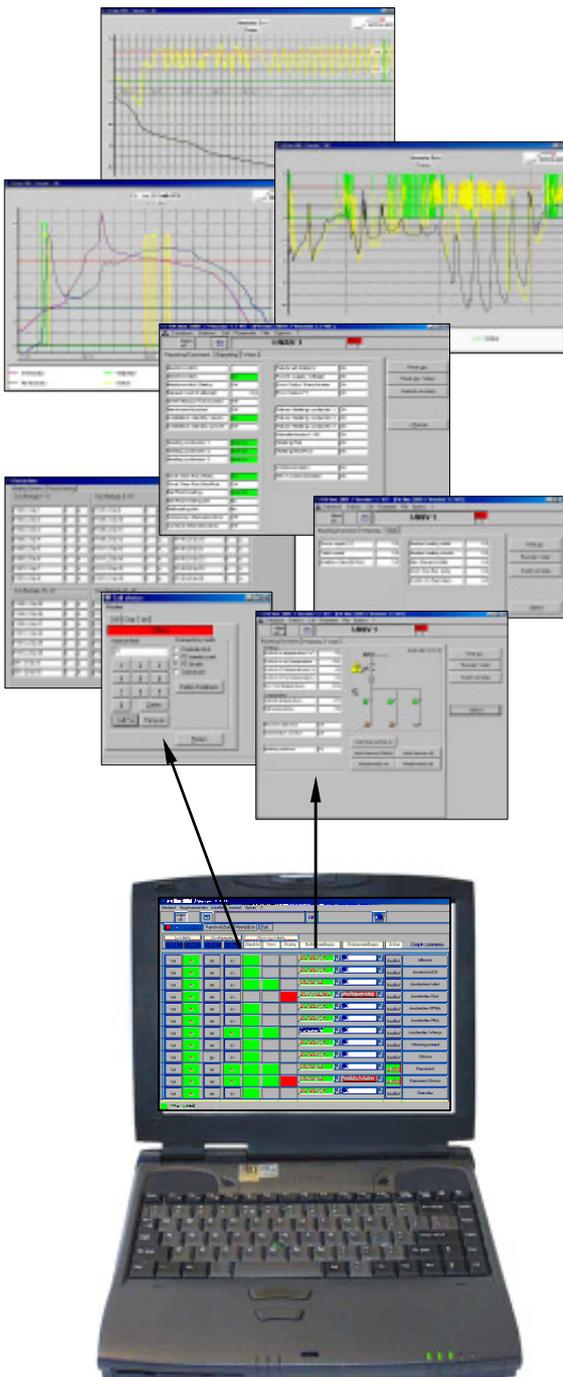


## PA LINE VISUALISATION

The operating *PA LINE* software has been written specifically for points heating application in co-operation with expert engineers to guarantee reliability and stability where it counts on-track. In addition to its in-built stability and reliability, the system-specific *PA Line* software provides the possibility to interoperate with systems that use other communication protocols. The program offers a wide range of different screen visualisations. Some of the integrated screens are: station selection main menu, diagnosis main menu, reports / failures overview, element group overview and historical database. Using the station's database you can freely create graphic of all measured climatologic data.



The diagnosis main menu informs you about the pre-set temperatures to switch-on/off heating and the actually measured ambient and rail temperatures. Icon symbols in a process diagram show the actual status of the main power supply, heating function and moisture detection. Switch-on/off temperatures for wet and dry frost conditions can be set to local weather conditions. The *PA LINE* program prevents freezing of the switchpoints caused by sudden snowfall at low ambient temperatures by heating earlier, at higher rail temperatures. World-wide experience enabled *PINTSCH ABEN* to add this special function.

The reports/failures overview shows the actual operational status of the main system components. Shown are for example switch status of the main and element group power supply, switch status of short time run (test) heating and actual failures. You can freely configure the number of showed reports and faults to your preferences. *PA LINE* stores all failure reports in a database. From this database you can extract a list of failures over a specific period. The list specifies type of failure, date/time of failure report and date/time of failure confirmation.

*PA LINE* shows for each single strip heater group the actually flowing electric current and measured circuit resistance. Loss of heating capacity due to altering or damage to strip heaters and/or cables is signalled and enables the *PA-Line* system to generate it's own (preventive) maintenance schedule. In standard setting *PA LINE* alarms you when increase of strip heater resistance steps over 10%. The allowable %deviation can be set to your own preferences.

A very interesting feature of the *PA LINE* program is the extensive possibility to select graphics from the integrated historical database. You can overlook over a day, week or month the measured ambient and rail temperatures, moisture detection, consumed power and resistance per element group. It is easy to discover trends in the graphs: you will have a better understanding of the heating process characteristics and the local climatic conditions.